

OPERATING INSTRUCTION

HSS-88

Model Trimmer
with solenoid valve



Fig 1: HSS-88



WASSERMANN DENTAL-MASCHINEN GMBH

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Dear customer,

Thank you for choosing a Wassermann product. Wassermann Dental-Maschinen bring you the highest quality and the latest technology. Before you start this unit, please read the User's Manual carefully and operate the unit accordingly. In that way, you'll maximise its output and can look forward to many years of trouble-free operation. Also, please make sure that all personnel who operate the unit have read and understood the User's Manual.

Keep this User's Manual in a safe place so that it can be referred to at any time.

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1 Safety instructions

1.1 Proper use of the product

The HSS-88 plaster-cast grinder is used in dental laboratories **exclusively** for grinding (trimming) plaster models.

To avoid damaging the unit and/or its grinding wheel, it should be used **only** with plaster. Using it with other materials could fracture the wheel.

1.2 Safety symbols used in this manual



Warning!

This symbol indicates a risky or dangerous situation.
Ignoring this symbol could lead to life-threatening.
Do not ignore this symbol!



Information

This symbol indicates features which must be observed.

1.3 Safety instructions



- Servicing and repairs to your unit must be carried out by qualified personnel.
- Always disconnect the unit from mains power before carrying out cleaning or maintenance. Keep well away from water.
- Always wear protective goggles before working on the grinding wheel.
- Electric motors have dangerous, high-voltage rotating parts. Incorrect usage or inadequate maintenance could endanger personnel and equipment.
- Any work on the motor should be carried out only by qualified service personnel.
- Allow the condensers time to discharge before opening the unit.
- When working on the unit, wear close-fitting clothing and roll sleeves inward only. Do not wear gloves.
- Wear a hair net (or similar) if you have long hair.
- Do not wear rings, chains, bangles or similar jewelry when working with the HSS-88.



- Turn off the tap overnight and at weekends.

1.4 Dangerous situations



- **Danger of injury from rotating parts and wheel.**

1.5 Follow the User's Manual

This User's Manual sets out the information and procedures to be observed when the unit is turned on and operated. The unit must be used **only** for its intended purpose.

1.6 Responsibility for operation and damage

The owner or operator are in all cases responsible for the operation of this unit if it is used by persons not employed by an approved laboratory, is wrongly serviced, maintained or altered, or if it is operated for purposes other than its intended use. The unit must be maintained and operated in accordance with this User's Manual. Any damage resulting from ***non-observance*** of these instructions is not the responsibility of Wassermann Dental-Maschinen GmbH.

Warranty and responsibility terms covered by the sales and supply conditions of Wassermann Dental-Maschinen GmbH do not extend beyond those stated here.



- **Responsibility for the product becomes void if alterations are made to it by third parties or if non-approved parts are installed. Only original WASSERMANN parts should be used. If any damage results from the installation of a non-approved wheel, responsibility lies with the person installing that replacement wheel.**
 - **If diamond grinding wheels are used, *serious wear* will result from grinding embedded materials and metals. We will be in no way responsible in this case.**
-

1.7 Authorised users

The owner of the unit must provide the operator with the User's Manual and ensure that the operator has first read and understood it. Only then should the operator use the unit.



Make sure that the User's Manual is *always* accessible, and has been read and understood.

2 Servicing and care

2.1 Servicing



- **Before cleaning or servicing the unit, ensure that it is disconnected from the mains power and cannot be switched on again accidentally.**
- **Keep the unit well away from water.**
- **Open the unit only after the wheel has come to a complete stop.**

The HSS-88 plaster-cast grinder is a low-maintenance unit. However, when opening the wheel chamber for cleaning or to change the wheel, be sure to clean the sealing surfaces and re-coat them with water-insoluble grease.

As a safety measure, check regularly that the hose retainers and water-supply hoses are firmly anchored.

2.2 Care



We recommend occasional use of a cloth moistened with an alkaline solution to remove plaster waste on the outside of the unit. Other than that, the HSS-88 does not require any special care.

3 Use/Applicability

The HSS-88 plaster-cast grinder is intended for the grinding (trimming) of plaster casts.

***** Use the unit only for the intended purpose! *****

4 Before starting the unit

4.1 Unpacking and transporting the unit

- Open the carton, remove the packing material and carefully lift out the unit and accessories. Check that all accessories are present.
- Use appropriate packing when transporting the unit in order to avoid damaging it.



Take out the User's Manual and read it carefully.

It is important to record any transport damage when you unpack the unit. If necessary, fill out a condition report immediately.

4.2 Unit and accessories

HSS-88 including grinding disc	Item no.:
including diamond grinding disc	168998
including Dia-Quick grinding disc, partly diamonded	168996
including corundum grinding disc	168999
including foil grinding disc	168991
Included in delivery	Item no.:
Inclined support	168037
Supply hose 1 m	320006
Discharge hose 1 m	320017
Accessories	Item no.:
Conversion kit for HSS-88, Dia-Quick- and foil grinding disc	168071
Grinding device KMS according to B. E. G. G.	168080
Directional light GTE	168081
Template for upper jaw to trim the lower jaw tube level	168082
Wall console	168056
Sealing grease for trimmer , 25 ml	629002
Truing apparatus to roughen corundum grinding disc	710001

4.3 Set-up and storage

- When setting up the unit, ensure that the grinding wheel is readily accessible and that the unit is located near a sink.
- To install the *flushing water connector*, you'll need a pressure hose with woven liner measuring 0.5 inch (13 mm) in diameter, and for the *drain*, a plastic hose 1 inch (25 mm) in diameter.
- If the unit is to be stored, even for a short time, its location can have a significant effect on its operation. The location should be dry, well-ventilated and free of vibrations. It is important for the unit to be seated on a wooden base and to be kept at a constant temperature. **The unit must not be stored or set up in the open air.**



Warning! Before turning on the unit, ensure that it has come to room temperature.

5 Operation

5.1 Technical specifications

Voltage*	220–240 V / 50/60 Hz
Power consumption	4.6 A
Output	1000 W
W x H x D	330 x 335 x 410 mm
Weight	19.8 kg
Sound level	≤ 70 dB(A)
Speed	3000 min ⁻¹
Duty	S6 - 40 %
Table dimensions projecting	120 mm

*Other voltages upon enquiry.



Subject to modification

Noise transmission measured within a circumference of 1 metre around and 1.6 metres above the unit was 69 db (A), averaged over 50% idling, 30% mid-load and 20% full load. This level was determined in accordance with DIN 45635 Part 1.



After switching on the unit, wait a few seconds for the motor to come up to speed. The full power of the motor can then be used. Never work the units to the point that the motor labours to keep turning. This could result in overloading and motor damage.

5.2 Water regulation

The water supply is regulated at the tap. The amount of water is sufficient when the wheel remains more or less its original colour during grinding.

Grinding requires **only light pressure** and slight left and right movement of the cast.



It goes without saying that only completely set plaster casts should be ground. Soft plaster could lead to blockages, especially in the hoses.

6 Installation

6.1 Location

As the unit can only be operated using water, it is recommended that it be set up close to a tap, and preferably with access to a sink. Alternatively, it could be mounted on a *wall console* above the sink.

6.2 Flushing-water connector

Install the *flushing-water connector* (pressure hose with woven liner) between the tap and the hose connector on the unit. This connector is located at the rear, underneath the motor. Use the clamps already mounted on the hose and tighten them firmly.

The tap must have a cut-off valve so that the feeder hose does not remain under constant pressure when the unit is not being used.



- **Retighten the hose clamps about 2 days after installation.**
 - **Be sure to turn off the tap overnight and at the weekend.**
-

6.3 Drain hose

The drain hose must be installed in such a way that blockages cannot occur. Arrange it in a continuous arc (no kinks) and with a permanent fall of at least 1 cm per metre.



- The end of the drain hose must be above the level of the plaster-cast mounting position.
- The end of the hose must not be under water.

As supplied, the mount for the drain hose is *angled* to the right. However, it can be altered to be front on. This position is recommended under awkward draining conditions. If that is the case, simply swap the lock cap and drain mounts.



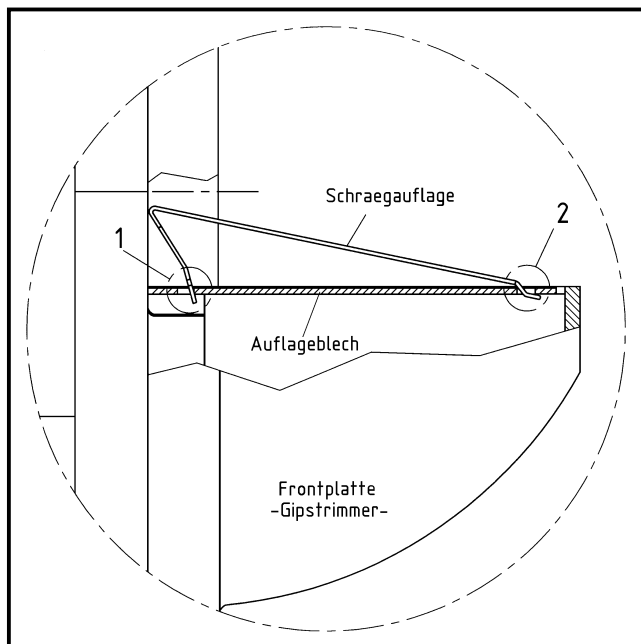
7 Assembly

7.1 Installing the angled mount

If required, the angled mount is just clamped in position on the HSS-88. Please observe the following instructions.



Ensure that the mount is placed correctly in position. It should be installed in accordance with the following diagram.



When installing the angled mount, ensure that positions 1 and 2 are correctly located on the base.

Schrägauflage – angled mount

Auflageblech – base

Frontplatte – front plate

Gipstrimmer – plaster trimmer

8 Supports

Aside from the item described in 7.1, *Installing the angled mount*, the HSS-88 plaster trimmer does not required any other support mechanisms.

9 Maintenance

9.1 Servicing

See 2.1, *Servicing* for details of servicing procedures. No other servicing work is required.

9.2 Breakdowns and troubleshooting

Breakdown/Fault	Likely causes	Recommended solutions
Water spurting from work area	Water pressure too high	Adjust water pressure at tap (see 5.2 <i>Water regulation</i>)
	Drain hose extended with a <i>smaller</i> diameter hose	Ensure that the drain hose diameter is 1 inch (25.4 mm)
	Drain hose kinked	Ensure that the drain hose does not have any <i>kinks</i> in it
	End of drain hose located below level of plaster cast mount	Ensure that the hose end is located above mount level
	Angle of drain hose too shallow	Ensure that there is a fall of at least 1 cm per metre
	Radius (bend) of drain hose too small	Ensure that the drain hose radius is as even as possible
	Pipe bend (causing water back-up) where it meets drain hose)	The bend must be enlarged to at least 40 mm diameter

9.3 Grinding wheel overhaul

If, after some time, the surface of the corundum grinding wheel becomes smooth or has developed grooves, the wheel may need to be ground back or roughened using a surface grinder. If necessary, used corundum wheels can be returned to the factory for refurbishing.



If a surface grinder is used, be sure to follow its User's Manual and safety instructions.

9.4 Replacement wheels

Replacement wheels are always supplied with an extractor for the old wheel and a tube of grease for sealing the wheel chamber.



Installing a replacement wheel on an existing wheel mounted in the unit, regardless of its origin or model type, is strictly prohibited by Wassermann.



Warning!

The use of diamond grinding wheels to grind embedded material and metals will result in excessive wear on the blade. We assume no responsibility if this occurs.



When using replacement wheels, be sure to follow the instructions supplied when changing wheels.

9.5 Grinding discs

Spare diamond grinding disc including puller and grease	168063
Spare Dia-Quick grinding disc, partly diamonded, including grease	162063
Spare corundum grinding disc including puller and grease	168024
Spare foil grinding disc, 1 set = 4 pieces, including grease	162013
Spare foil grinding disc, fine, 1 set = 4 pieces, including grease	162023

10 Warranty

The warranty period for our equipment is 12 months. If faults occur within the warranty period, contact your dental depot or get in touch directly with our Service department. Your plaster model trimmer should only be operated in perfect condition. If faults occur which could harm operators or third parties, the unit should not be used until it has been fixed.

This warranty does not cover damage caused by improper use, external mechanical causes, transport damage or interference with the unit by unauthorized persons.

11 EC Conformity certificate

in accordance with 2006/95/EG (low-voltage guidelines) and 2004/108/EG (EMV guidelines) and 98/37/EG (machinery guidelines)

Manufacturer : W A S S E R M A N N Product description : Plaster-cast grinder
Dental-Maschinen GmbH for dental
Rudorffweg 15 - 17 applications
D-21031 Hamburg, Germany

Maschine model : HSS-88 model trimmer (168 997)

Applicable standards: DIN EN 61010-1:2004
DIN EN 61000-6-3:2005
DIN EN 61000-6-1:2002
DIN 45635-1:1984
DIN EN 60335-1:2007

Hiermit wird bestätigt, dass die oben bezeichnete Maschine den genannten EG-Richtlinien entspricht. Diese Erklärung wird ungültig, falls die Maschine ohne unsere Zustimmung verändert wird.

This is to confirm that the above-mentioned machine complies with the described EC rules. This declaration becomes invalid if the machine is modified without our approval.

Cette machine est conforme aux normes en vigueur de la Communauté Européenne. Cet avis est nul et non avenant si cette machine est modifiée sans notre accord.

Esta máquina, anteriormente mencionada, cumple con los limites requeridos por el reglamento EC. Ahora bien, esta declaración quedará invalidada en caso de realizar modificaciones al aparato sin nuestra aprobación.

Hiermee wordt bevestigd dat bovengenoemde machine voldoet aan de voorgeschreven EU normen. Deze verklaring verliest geldigheid als er zonder onze uitdrukkelijke toestemming wijzigen aan de machine worden aangebracht.

Place, date: Hamburg, 20.07.2007

Company stamp :

Signed: _____



Wilfried Wassermann
(Managing Director)





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